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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/008,630

11/13/2001

Edward G. Callway

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LARSON NEWMAN ABEL
POLANSKY & WHITE, LLP
5914 WEST COURTYARD DRIVE
SUITE 200
AUSTIN, TX 78730

EXAMINER

NATNAEL, PAULOS M

ART UNIT

PAPER NUMBER

2622

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/008,630

Applicant(s)

CALLWAY ET AL.

Examiner

Paulos M. Natnael

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,9,11-15,17-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3-7,9,11-15 and 17-23 is/are allowed.
- 6) ☒ Claim(s) 24-30 and 32 is/are rejected.
- 7) ☒ Claim(s) 31 and 33-37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: "Summary of the Invention" is missing. Appropriate correction is required.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims **24-30,32** are the claimed invention is directed to non-statutory subject matter.

Considering claim **24**, the claimed a method comprising the steps of: receiving an absolute alpha value, wherein the absolute alpha value represents a position, within a first range of alpha values, relative to a first source pixel; amplifying the absolute alpha value by a factor to generate an amplified alpha value; and normalizing the amplified alpha value to generate a normalized alpha value so that the normalized alpha value represents a position relative to the first range of alpha values.

Considering claim **25**, the method as in claim 24, further including: subtracting a first value from the absolute alpha value before the step of amplifying the alpha value by a factor, wherein negative values of the alpha value, after subtracting the first value, indicate closer proximity of the re-sampled pixel to the first source pixel than a second

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source pixel; and further wherein the step of normalizing the amplified alpha values includes: clipping the amplified alpha value within a subset of alpha values to generate a clipped alpha value, wherein amplified alpha values outside of the subset of alpha values are set to a nearest limit of the subset of alpha values; and adding the first value to the clipped alpha value to generate the normalized alpha value;

Regarding claim 26, wherein the first value is approximately 0.5.

Regarding claim 27, wherein the subset of alpha values include the range of alpha values from -0.5 to approximately +0.5.

Regarding claim 28, further including the step of applying a first representation of the modified alpha value to a value associated with the first source pixel and applying a second representation of the modified alpha value to a value associated with a second source pixel to generate a value for the re-sampled pixel.

Regarding claim 29, wherein the second representation of the modified alpha value is the modified alpha value and the first representation of the modified alpha value is the difference between one and the modified alpha value.

Regarding claim 30, wherein applying includes multiplying.

Regarding claim 32, wherein the first range includes a range of alpha values from zero to one.

Claims **24-30,32**, thus, explicitly state mathematical algorithm.

When analyzing a mathematical calculation claim, the claim will initially be classified as non-statutory if any of the following three conditions are met: 1) the claim recites functional descriptive material (such as data structure per se or computer program per se); 2) the claim can be non-functional descriptive material such as music, literary works, mere data per se, or on a computer readable medium; or 3) the claim can be Natural Phenomenon such as energy or magnetism. In none of the three are applicable then further analysis is necessary to classify the claim as either a statutory or non-statutory product or process.

Claims **24-30,32** do not claim any Natural Phenomenon such as energy or magnetism. Nor do the claims claim Functional Descriptive Materials. Claims **24-30,32** fall in the category of non-Functional Descriptive Material as in Part two (2) above. That is, the calculations given in both claims are mere compilations of data that may have some intended uses, but lack any functional interrelation between themselves or the claimed system as a whole.

The claims list steps or instructions. Furthermore, the output or End Product of the invention of claims **24-30,32** is simply a value or a number. If the End Product if a claimed invention is a pure number...the invention is non-statutory regardless of any

post-solution activity that makes it available for use by a person or machine for other purpose. (In re Walter, 205 USPQ 397, 407 (CCPA 1980)). Claims **24-30,32** output a number (an amplified, normalized absolute alpha value, as in claim 24) as a result of the calculations. Therefore, when the claims **24-30,32** are taken as a whole, they are directed to mathematical algorithm, and thus, are non-statutory.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims **24,28,32,34-37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Betrisey et al. USP # 6,360,023 in view of Admitted Prior Art (APA).

Considering claim 24, Betrisey et al. (hereinafter, "Betrisey") discloses method of adjusting character dimensions to compensate for low contrast character features. Betrisey teaches "Methods and systems for increasing the contrast with which thin-stemmed characters can be displayed in sub-pixel rendering processes are disclosed. Some fonts, such as Courier New, have relatively thin stems and other character features that would otherwise be rendered with low contrast when displayed using an oversampling process combined with a rendering process that treats individual pixel sub-components as separate luminous intensity sources. In order to avoid such low

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contrast features and to avoid the need for revising the font itself, the alpha values for the pixel sub-components that correspond to the character features are selectively increased to simulate larger dimensions of the character features and to increase the contrast with which the character dimensions are displayed. The methods involve oversampling image data representing a character by obtaining multiple samples for each of a plurality of pixel sub-components of a pixel. The alpha values associated with pixel sub-components at or near the position of the character features are increased to give the appearance of larger dimensions of the character features and greater contrast in the displayed image. See abstract of the disclosure. In figures 3-5, Betrisey discloses receiving sample image 304, filtering 306 the received image, and clipping 308 which corresponds to normalization (see col. 3, lines 48-64). Furthermore, Betrisey teaches ... Specifically, Betrisey discloses... **in the known system a normalized alpha value of 1 indicates that the region to which the alpha value corresponds is a foreground color region.** The image samples (16 per pixel) 304 are then filtered in step 306 using a box filter to produce a value between 0 and 16 per pixel. Next in step 308, values of 16 are clipped to 15 so that the alpha value for each pixel can be represented using 4 bits. This permits the alpha values to range between 0-15 and allows the alpha values to be stored using 4 bits each as opposed to 5 bits which would be needed for the range 0-16. The alpha values produced by clipping step 308, on per pixel, are stored in the font glyph cache 310 as a glyph corresponding to the sampled image. Multiple character glyphs may be stored in the font glyph cache 310. See disclosure in col. 4, lines 22-35.

Betrissey discloses that the alpha values represent a position or a region and thus disclose the claimed subject matter.

As to the claimed absolute alpha value, Betrissey does not specifically use the term absolute. However, generating absolute values from a given value is well known in the art in the arts of mathematics and/or engineering. In that regard, the APA discloses generating absolute alpha values 112 from the input source video. It would have been therefore obvious to the skilled in the art at the time the invention was made, to modify the system of Betrissey by using absolute values in order to process the signal more efficiently as desired.

Considering claims 28 and 32, see rejection of claim 24.

As to claims 34 and 35, see Figs. 8 and 9.

Regarding claim 36, see Fig.6 where it is disclosed an exemplary sampling and filtering method illustrating a scaled image 620.

As to claim 37, Betrissey discloses the system is used within or in a computer system application which uses a scaling subroutine as shown in figures 11 and 12.

Response to Arguments

6. Applicant's arguments filed 6/7/06 have been fully considered but they are not persuasive. Applicant argues:

Betrisey discloses a method for displaying a character on a display screen by changing alpha values associated with a relative luminous intensity of the character and the character background. Betrisey, col. 3, lines 18-64...the alpha values disclosed in Betrisey represent a luminous intensity, rather than a position of a pixel.

The examiner submits the instant application relates to display resolution and re-scaling. Betrisey discloses adjusting character dimensions to compensate for low contrast character features. Specifically, Betrisey discloses...Alpha values are usually normalized to a value in the range of 0-1 before being used in the application of foreground/background colors to a rendered character glyph...In the known system a normalized alpha value of 1 indicates that the region to which the alpha value corresponds is a foreground color region. (see col. 3, lines 48-64). The alpha values associated with pixel sub-components at or near the position of the character features are increased to give the appearance of larger dimensions of the character features and greater contrast in the displayed image. See abstract of the disclosure. In figures 3-5, Betrisey discloses receiving sample image 304, filtering 306 the received image, and clipping 308 which corresponds to normalization (see col. 3, lines 48-64).

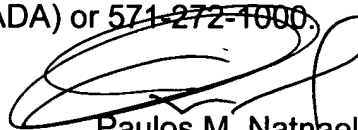
Thus, Betrisey discloses that the alpha values represent a position or a region and the arguments are unpersuasive.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (571) 272-7354. The examiner can normally be reached on 9am - 5:30pm M,W, F (7am-3:30pm T,Th).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571)272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Paulos M. Natnael
Primary Examiner
Art Unit 2622

PMN
August 20, 2006